

WHAT IS CLAIMED IS:

1. A method of genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism C3435T,

5 comprising the steps of:

preparing DNA samples from an individual;

amplifying said DNA with primers SEQ ID NOs: 1 and 3 or SEQ ID NOs: 2 and 3; and

identifying the products of said DNA amplification,

10 wherein the presence of products amplified by primers SEQ ID NOs: 2 and 3 indicate said individual has the genotype C3435T.

2. The method of claim 1, wherein said products of
15 DNA amplification are identified by a method selected from the group consisting of real-time fluorescence-based analysis, melt curve analysis and gel electrophoresis.

3. The method of claim 2, wherein said gel electrophoresis identifies a product of 134 base pairs that correspond to genotype C3435T.

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4. A kit for genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism C3435T, comprising primers having the sequences of SEQ ID NOs: 1-3.

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5. A method of genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism G2677T, comprising the steps of:

preparing DNA samples from an individual;

15 amplifying said DNA with primers SEQ ID NOs: 4 and 6 or SEQ ID NOs: 5 and 6; and

identifying the products of said DNA amplification, wherein the presence of products amplified by primers SEQ ID NOs: 5 and 6 indicate said individual has the genotype G2677T.

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6. The method of claim 5, wherein said products of DNA amplification are identified by a method selected from the group consisting of real-time fluorescence-based analysis, melt curve analysis and gel electrophoresis.

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7. The method of claim 6, wherein said gel electrophoresis identifies a product of 216 base pairs that correspond to genotype G2677T.

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8. A kit for genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism G2677T, comprising primers having the sequences of SEQ ID NOs: 4-6.

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9. A method of genotyping human cytochrome P-450 3A5 single nucleotide polymorphism CYP3A5*3, comprising the steps of:

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preparing DNA samples from an individual;

amplifying said DNA with primers SEQ ID NOs: 11
and 13 or SEQ ID NOs: 12 and 13; and

identifying the products of said DNA amplification,
wherein the presence of products amplified by primers SEQ ID NOs:

5 12 and 13 indicate said individual has the genotype CYP3A5*3.

10. The method of claim 9, wherein said products of
DNA amplification are identified by a method selected from the
10 group consisting of real-time fluorescence-based analysis, melt
curve analysis and gel electrophoresis.

11. The method of claim 10, wherein said gel
15 electrophoresis identifies a product of 238 base pairs that
correspond to genotype CYP3A5*3.

12. A kit for genotyping human cytochrome P-450 3A5
20 single nucleotide polymorphism CYP3A5*3, comprising primers
having the sequences of SEQ ID NOs: 11-13.

13. A method of genotyping human cytochrome P-450 3A5 single nucleotide polymorphism CYP3A5*6, comprising the steps of:

5 preparing DNA samples from an individual;
 amplifying said DNA with primers SEQ ID NOs: 14
and 16 or SEQ ID NOs: 15 and 16; and
 identifying the products of said DNA amplification,
wherein the presence of products amplified by primers SEQ ID NOs:
10 15 and 16 indicate said individual has the genotype CYP3A5*6.

14. The method of claim 13, wherein said products of DNA amplification are identified by a method selected from the
15 group consisting of real-time fluorescence-based analysis, melt
curve analysis and gel electrophoresis.

15. The method of claim 14, wherein said gel
20 electrophoresis identifies a product of 273 base pairs that
correspond to genotype CYP3A5*6.

16. A kit for genotyping human cytochrome P-450 3A5 single nucleotide polymorphism CYP3A5*6, comprising primers having the sequences of SEQ ID NOs: 14-16.

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17. An isolated DNA molecule useful as a primer for genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism C3435T, said DNA is selected from the group consisting of SEQ ID NOs: 1-3.

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18. An isolated DNA molecule useful as a primer for genotyping human multidrug resistance gene (*MDR1*) single nucleotide polymorphism G2677T, said DNA is selected from the group consisting of SEQ ID NOs: 4-6.

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19. An isolated DNA molecule useful as a primer for genotyping human cytochrome P-450 3A5 single nucleotide

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polymorphism CYP3A5*3, said DNA is selected from the group consisting of SEQ ID NOs: 11-13.

- 5 20. An isolated DNA molecule useful as a primer for genotyping human cytochrome P-450 3A5 single nucleotide polymorphism CYP3A5*6, said DNA is selected from the group consisting of SEQ ID NOs: 14-16.